## AMENDMENTS TO THE CLAIMS

1. (Currently amended) An apparatus for mounting an electronic component onto a board through a lead-free solder material by means of a flow soldering process while transferring the board, ~~which~~ said apparatus ~~comprises~~comprising:

a solder material supplying chamber including a solder material supplying unit operable to supply ~~in which~~ a melt of the solder material ~~is supplied~~ to the board ~~by a solder material supplying unit~~ such that the solder material adheres to a predetermined portion of the board; ~~and~~

a cooling chamber including a cooling unit operable to cool ~~in which~~ the board ~~is cooled by a cooling unit~~ such that the solder material adhering to the board is rapidly cooled to solidify~~.~~; and

a conditioning chamber between said solder material supplying chamber and said cooling chamber, said conditioning chamber being operable to condition the board so as to ensure that the solder material adhering to the board is in a completely molten condition after said solder material supplying unit supplies the melt of the solder material to the board in said solder material supplying chamber and before said cooling unit rapidly cools the solder material adhering to the board in said cooling chamber.

2. (Currently Amended) The apparatus according to claim 1, wherein ~~the~~ said cooling unit is operated such that the solder material is cooled at a cooling rate which is not less than 200°C/min.

3. (Currently Amended) The apparatus according to claim 1, wherein ~~the~~ said cooling unit ~~uses~~ is operable to use gas cooling or liquid cooling.

4. (Currently Amended) The apparatus according to claim 3, wherein ~~the~~ said cooling unit uses the gas cooling with nitrogen gas.

5. (Cancelled)

6. (Currently amended) The apparatus according to claim ~~5~~1, wherein a temperature of an atmosphere in ~~the~~ said conditioning chamber is in the range between a melting point of the solder material and a heat resistant temperature of the electronic component.

7. (Currently amended) The apparatus according to claim ~~5~~1, wherein ~~the~~ said conditioning chamber contains an atmosphere of nitrogen gas.